City of Lancaster
DEPARTMENT OF PUBLIC WORKS
OFFICE OF THE DIRECTOR

August 22, 2012

Mr. Steve Maslowski (3WP42)
NPDES Enforcement Branch
Water Protection Division
U.S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19101-2029

Subject: **City of Lancaster, Pennsylvania**
U.S Environmental Protection Agency December 27, 2011 Inspection Report
(Inspection dates September 7-8, 2011)

Dear Mr. Maslowski:

The purpose of this letter is to provide responses to the above referenced inspection report. We have not copied USEPA's observations/comments prior to our responses, but only provide responses to the observations and comments contained within the report. We hope that this is sufficient. We were holding off on submitting these responses in anticipation of a second report from the follow up visit in December. When we receive that follow up report, we will provide responses to any new comments/observations.

1. *Page 1, First Paragraph*: The City Wastewater Treatment Plant (WWTP) services portions of twelve (12) municipalities (not the 13 tributary municipalities noted) which include the City itself. The total service population is estimated at 120,000.

2. *Page 2, Table 2, NMC #2, Observation No.1*: The City operates five (5) combined sewer overflow (CSO) diversion chambers within the combined sewer system (CSS). Grit buildup within the CSS upstream of these diversion chambers does not occur. Due to the design of the CSS, large pipes with adequate slope allow for velocities that prevent grit buildup. Grit is removed from these diversion chambers where settling facilities are established by design to allow for grit to settle out, but any grit that is transmitted to the sewage pumping stations occurs directly downstream of these diversion chambers. The City's CSS storage capacity is not reduced by grit accumulation and allows for maximum use of the collection system for storage as required by the Nine Minimum Control (NMCs).

3. *Page 2, Table 2, NMC #2, Observation No.2*: In addition, the City also has its own sewer pipeline television equipment and employs operations staff to conduct the primary compliance with this measure. The contractor supplements our own crew.

4. *Page 3, Table 2, NMC #3, Observation No.2*: The installation of the Lancaster County Prison automatic screen has eliminated the type of debris indicated in the inspection report. With the City's investigation leading to the Prison as the source of problem debris, and its subsequent removal by enforcement action, the CSS, North Pumping Station, and WWTP is no longer an issue.

5. *Page 3, Table 2, NMC #4, WWTF Observation No.1*: Scheduled maintenance on the North Primary Clarifiers does occur, but this maintenance has no impact on the City's ability to comply with NMC #4. Maximization of flow to the WWTP occurs whether one (1) or two (2) North Primary Clarifiers are in-service since a single clarifier provides the necessary treatment to influent flows to the North Train of the WWTP during wet weather. For example, the Inspection Report states the City could not maximize flow to the North Treatment Train during the wet weather event which occurred September 5-8, 2011. During that time frame, three (3) pumps were in operation at the North Pumping Station and two (2) pumps at the Stevens Avenue Pumping Station during the wet weather event. This is the maximum capacity of these pumping station and they were pumping their maximum designed flow rates in compliance with the NMCs. The dual primary clarifiers are designed to allow one to be out of service and still provide enough clarification for the north train of the plant based on pumping capacity.

6. *Page 3, Table 2, NMC #4, WWTF Observation No.2*: The City tries to keep a flow rate of 7 MGD to the South Activated sludge System but much more south influent is received through preliminary and primary treatment. The difference in south primary effluent is transferred to the North Activated Sludge System and also bypassed with the WWTP CSO related bypass during wet weather.

7. *Page 3, Table 2, NMC #4, Collection System Observation No.1*: As discussed in City comment No. 2 and No. 5 above, the requirements of the NMC #4 are followed by the City. Maximization of flow to the WWTP does occur with only grit transmitted to the WWTP's North Train that is not removed at each diversion chamber. The City does recognize that the North Pumping Station Grit Removal System is no longer operational and the Steven Avenue Pumping Station also has no grit removal; therefore, grit removal should take place at the WWTP. With this, the City's has previously designed and bid construction of a grit and screens facility for the North and South Treatment Train of the WWTP. Construction of this project with a total price tag of $8.1 million had started in February of this year and is scheduled to be completed by May 2013. Maximization to the South Train of the WWTP also occurs as per the NMCs.

8. *Page 3, Table 2, NMC #4, Collection System Observation No.2*: The City has operated and continues to operate the North Pumping Station as permitted by the Pennsylvania Department of Environmental Protection (PADEP). During emergency generator operation, two (2) pumps at both the North Pumping Station and Grofftown Road Pumping Station were designed and permitted to be operational from startup in 1984 and we continue to operate in this mode as permitted. Since startup, the North Pumping Station

has lost utility power service only a few times. The most recent time was in February 2011 when the utility power transform to the Pumping Station failed. This was the first circumstance to recollection that occurred during wet weather. After this event, the City conducted an electrical load shedding evaluation of the North Pumping Station in an effort to improve on the original emergency power design. With taking pieces of equipment offline during wet weather, the City can now operate three (3) pumps at the North Pumping Station and the current two (2) pump electrical load at the Grofftown Pumping Station in the event utility power would ever fail again during wet weather. The PADEP has been notified of this improvement.

9. *Page 3, Table 2, NMC #6*: Solids and floatable control is provided on every stormwater catch basin connected directly to the CSS. These inlets have a deep sump for solids settling and a trapped outlet for floatable separation prior to stormwater entering the CSS. Additional methods for compliance with NMC #6 as approved by the PADEP with our NMC Plan include: operation of the Stevens Avenue bar screen and vortex separator, aggressive street sweeping (as discussed in the Inspection Report), grit sedimentation basins prior to the Engleside and Clay Street Diversion Chambers, and public education.

   With a recent City project totaling $1.8 million dollars, the screening at the Stevens Avenue Diversion Chamber and Engleside Screen House was upgraded to provide improved solids and floatable removal along with greater maximization of flow to the pumping stations preceeding the WWTP. The City has also started design on a replacement CSS diversion chamber prior to the North Pumping Station. This project that is anticipated to be complete by the end of 2014, has an estimated price tag of $1.75 million dollars and will provide improved hydraulics and screening of the CSO discharge. For the Engleside Diversion Chamber, the City has requested our Engineer investigate screening alternatives that can be incorporated with a scheduled project currently starting design.

10. *Page 4, Table 2, NMC #7, Observation No.1:* As discussed in City comment No. 9 above, all City catch basins connected directly to the CSS have solids and floatable control.

11. *Page 4, Table 2, NMC #8:* The City has signs at all CSO outfalls at a location that can be viewed by citizens if also observing a discharge from the CSS. Additional signage has been added to warn citizens of the CSO outfall before actual observance such as public trail locations.

12. *Page 4, Table 2, NMC #9:* Unlike most CSO communities, all of the City's five (5) CSS diversion chambers have permanent flow metering that records the date, time, and volume of CSO.

    At the time of the September 2011 Environmental Protection Agency (EPA) inspection, two (2) of the flow meters were recording information at the diversion chamber but not transmitting detailed data to the WWTP's supervisory control and data acquisition (SCADA) system. These two (2) locations were connected via phone line to notify WWTP

personnel of CSO discharge. During this time, the City would download all data stored at these two (2) CSO meters monthly or when needed for required reporting. Communication to the WWTP SCADA was converted to cable modem with completion of a recent construction project.

With the City's Flow Monitoring Program conducted over 2008, 2009, and 2010, it was determined that the permanent metering provisions at the Engleside (CSO 002) and Clay Street (CSO 005) Diversion Chambers can overestimate CSO discharge during very large rain events due to high levels in the chambers that prevent accurate weir measurement. The City is investigating improvements that can be made at these two (2) CSO metering locations to improve measurement and eliminate the potential to overestimate flows during large rain events. From this investigation, the City has decided to construct a replacement Clay Street Diversion Chamber at the North Pump Station site that incorporates screening of the CSO as discussed in City comment No. 9 above.

13. *Page 6, First Paragraph:* Same as City comment No. 1 above

14. *Page 7, Last Paragraph:* Same as City comment No. 1 above

15. *Page 8, Tributary Sewer Authorities and Municipalities:* Lancaster Area Sewer Authority (LASA) listed municipalities served is not for discharge to the City WWTP but LASA's WWTP which is completely separate from the City's system. The correct representation of the municipalities served by the City's WWTP are the following:

Agency	Portions of Municipalities Served
City of Lancaster	City of Lancaster, Lancaster Township, Manheim Township, Manor Township, East Hempfield Township
Lancaster Area Sewer Authority	Manheim Township
Suburban Lancaster Sewer Authority	Lancaster Township, West Lampeter Township, Pequea Township
East Lampeter Sewer Authority	East Lampeter Township
Leola Sewer Authority	Upper Leacock Township, West Earl Township
Strasburg Borough Authority (Capacity at WWTP allocated by SLSA)	Strasburg Borough, Strasburg Township
Manor Township (Capacity at WWTP allocated by City)	Manor Township

16. *Page 8, Second Paragraph*: The rated average daily flow (ADF) rate of the WWTP is 32.08 MGD. Total nitrogen (TN) is the limiting treatment factor of the City's NPDES Permit, but it does not limit the amount of flow into the WWTP. Based on the City's *2010 Biological and Hydraulic Capacity Evaluation Report,* the WWTP can remove TN down to a discharge of 8 mg/L at an ADF of 26 MGD. The peak hourly flow and ADF discharge of the WWTP is much greater during wet weather events.

17. *Page 9, Figure 1*: The City figure identified has CSO labeling based on the last NPDES Permit. The recent NPDES Permit changed CSO numbers 003A to 003 and 003B to 006 for compatibility with the PADEP's new electronic systems.

18. *Page 11, Inspection Observations, A.1.a and General Comment to Inspection Report*: The City does have additional standard operating procedures (SOPs), operation and maintenance manuals (O&Ms), and process control documentation other than that review by the EPA Inspection Team during the September 2011 inspection. Numerous O&Ms exist for WWTP and Pumping Station equipment that spell out detailed instructions on its purpose and how to operate and maintain.

19. *Page 11, Inspection Observations, A.1.e*: Lack of grit removal at the WWTP is discussed in City comment No. 7 above. Currently, grit is performed by labor intensive methods or transferred to the primary sludge without either impacting to the WWTP effluent discharge or its ability to maximize wet weather flow are required by NMC #4.

20. *Page 12, Inspection Observations, A.3*: The City does perform preventative maintain on the CSS and sanitary sewer system. The operation of the City's CSS does not impact our compliance with any of the NMCs as discussed in the City comments No. 2 and No. 5 above.

21. *Page 13, Inspection Observations, A.5*: All sewer complaints received during the day are logged and investigated. The results of such investigation are recorded for the purposes of O&M scheduling. Prior to February 22, 2011, calls were tracked on a Microsoft Excel spreadsheet.

22. *Page 14, Inspection Observations, B.1.a*: As discussed in City comments No. 2 and No. 5 above, the City is in compliance with NCM #2 and NMC #4

23. P*age 14, Inspection Observations,B.3*: Same as City comment No. 3 above

24. *Page 15, Inspection Observations, C.2*: Same as City comment No. 5 above

25. *Page 15, Inspection Observations, C.3*: The City does work for reduction of debris discharges at the sources and identified the Lancaster County Prison as the source of debris through televising of the CSS. As discussed in City comment No. 4 above, the source has been regulated and the problem has been eliminated from the North Train.

26. *Page 15, Inspection Observations, C.4*: It is impossible for Lancaster Oil Company's discharge to be released through the City's CSOs. Lancaster Oil Company's discharge is collected and conveyed by LASA directly into the North Pumping Station's wet well. From there, it goes directly to the WWTP. City and Partner sanitary sewer flows do mix with the City's CSS flows prior to the WWTP, but this occurs in the pumping station wet wells and not the City's CSS. The pumping station wet wells have separate inputs from the

CSS and sanitary sewer system(s). As discussed at the inspection meeting, the City has eighteen (18) significant industrial users (SIUs) that discharge to the WWTP but only five (5) are connected to the CSS. The SIUs connected to the CSS have been requested to stop or limit their discharge during wet weather events. Besides the SIUs, the City also requests that all sewer users and City residents use less water during wet weather events through its public education campaign.

27. *Page 16, Inspection Observations, Wastewater Treatment Plant, D.1.a*: Same as City comment No. 7 and No. 19 above

28. *Page 16, Inspection Observations, Wastewater Treatment Plant, D.2*: Same as City comment No. 5 above

29. *Page 17, Inspection Observations, Wastewater Treatment Plant, D.*3: Same as City comment No.6 above. In addition, the WWTP has the ability to transfer South Primary Effluent at a rate of 16 MGD to the North Activated Sludge System.

30. *Page 17, Inspection Observations, Collection System, D.1:* Same as City comment No. 2, 5 and 7 above

31. *Page 17, Inspection Observations, Collection System, D.1*: Same as City comment No. 8 above

32. *Page 17, Inspection Observations, Collection System, D.3.a*: The Stevens Avenue Pumping Station is under construction and will be expanded from 8.9 MGD to 11.1 MGD with scheduled completion in the spring of 2013.

33. *Page 17, Inspection Observations, Collection System, D.3.b*: The North Pumping Station is currently under design and is scheduled to be expanded from 26 MGD to 43 MGD by the end of 2014.

34. *Page 18, Inspection Observations, F.1*: Same as City comment No. 9 above

35. *Page 19, Inspection Observations, G.1*: Same as City comment No. 9 above

36. *Page 19, Inspection Observations, H.1*: Same as City comment No. 11 above. In addition, the City has changed the language of the signs several times in accordance with PADEP comments derived from their annual CSO inspections. It should be noted that the PADEP inspections reports show the City in compliance with the NMCs.

37. *Page 20, Inspection Observations, I.2.a and I.3*: Same as City comment No. 12 above

38. *Page 23, Table 5*: As discussed in the EPA Inspection Report, the September 2011 Inspection was cut short due to extreme weather and the declaration of a State of Emergency. All information requested prior to the Inspection was available during the Inspection. Additionally, all information requested at the follow-up December 2011 EPA Inspection was provided.

If you should have any questions, please do not hesitate to contact me.

Sincerely,

Charlotte A. Katzenmoyer
Director of Public Works

cc: Shawn Arbaugh, PADEP (via email)
Victor Landis, PADEP (via email)
Russ MacNair
Bryan Harner
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